

THE EVENING WORLD'S RADIO PHONE SERVICE COLUMN.

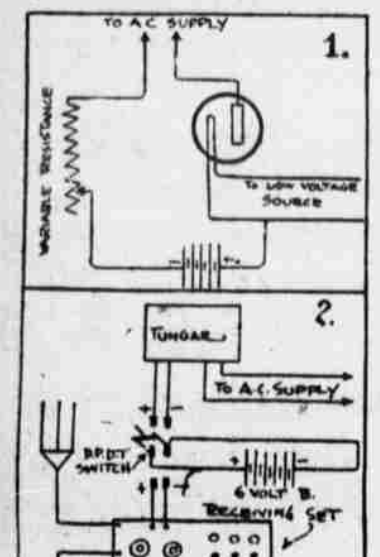
By Capt. Robt. Scofield Wood
D. F. C., M. C., Grad. de Guerre with
four palms; formerly Commander 167th
Battalion, Royal Air Force, England.
CHARGING STORAGE BATTERIES
WITH A. C.

PART 2.

The increased cost and additional complications of using the two-bulb set does not compensate for the difference in results, and as the pulsating direct current is satisfactory in every way for battery charging, the simple half wave rectifier is the more popular.

The gas filled "tungs" tube converts the amount of charging current according to the ordinary two-excellent valves. The filament is excited from a source of low voltage, as is shown in Figure 1. An adjustable resistance regulates the amount of charging current flowing through the battery. This is merely cited as an example, so as to show the underlying principles of operation. While it is possible to charge a battery using another battery to excite the filament of the lamp for recharging, there is no economy in exhausting one battery to help charge another. A five-ampere bulb takes approximately 18 amperes at two and one-half volts for filament lighting. Second, a resistance for recharging current would be inefficient and wasteful.

In the standard mercury vapor set the principle is carried out with a waste or loss of energy by the use of a small auto-transformer. In the small popular 5-ampere one battery set this transformer has two secondary windings, one consisting of a few turns of heavy wire for furnishing the filament current and the other consisting of a great number of turns for supplying the battery charging current. The primary has three adjustable taps, making the outfit adjustable to various line voltages. It takes considerably more current to start than to maintain, but it does so to maintain the arc for the most economical operation. In this respect it is like most everything else.



The initial force necessary to move an object is always greater than the energy required to keep it going. In the tungsten bulb the current necessary to start rectification is so high that it will on for any length of time would result in burning out the tube. An arrangement is therefore provided to lower the potential as the bulb commences rectifying.

When purchasing one of these sets it is well to bear in mind the size of your battery. A battery of the smaller type of not more than 40 amperes hours the 2-ampere tube will do the work. For any larger size battery the 5-ampere tube is necessary, as it will charge the battery in a much shorter period.

Another point that should be considered in the date of "heads" as it is called, that is put on the battery—the rate of discharge when operating the receiving set. If a single tube detector amplifier is used, the discharge rate will be approximately 10 amperes. If the receiver is in operation an average of three hours a day the total discharge will be three amperes hours. In the case of the two ampere tube lamp will be sufficiently large for recharging the battery regardless of its size. Operating the rectifier for about two hours a day will keep the battery in prime condition.

However, if a three-tube receiving unit is used, the total discharge over the same period is 30 amperes hours. To keep the battery fully charged with a two-ampere rectifying lamp under this heavy load would necessitate recharging operations of at least five hours daily, whereas a five-ampere rectifier tube would do the work in about two hours.

A battery should never be permitted to run down completely before it is recharged. Aside from the needless drain on the battery, it has two very distinct disadvantages in the operating position—first, that it invariably ceases to become inoperative just in the middle of some interesting program, and secondly, during the period of complete recharging the station is out of operation.

The advantages of putting back the energy consumed every day or so are obvious.

The tungsten has been approved by the National Board of Fire Underwriters, and it perfectly safe to put the recharging unit in operation and so away with safety. If at any time the supply voltage should fall, and when coming on again is not sufficiently strong to start the tube rectifying, there is no need to worry, as it is impossible for the battery to discharge back through the rectifying tube.

Figure 2 gives a convenient method of connecting the rectifier with the battery and insures the safety of the receiving instruments by making it impossible to charge the battery with the receiver hooked in. Aside from the fact that operation of the receiver would be impossible with the rectifier connected to it through the battery, due to the pulsating noises of the A. C. which would be evidenced in the receivers to the utter exclusion of everything else, there is the possibility of damage to both the receiver and rectifier.

If experimental work is contemplated in which a direct connection between the rectifier and the receiver is desired, it will be well to purchase one with an insulated transformer—separate primary and secondary—instead of the regular auto-transformer type. The same protection may be had by connecting in the line side of the output a "1 to 1" insulating transformer.

The case of the rectifier tube is identical with that of the tungsten tube. In experimental work connect a rheostat and an ammeter in the C. circuit so as to prevent a current of more than

STANDARD OIL FLEET USES RADIO COMPASS BEACONS.

The fleets of the Standard Oil Company have been ordered to make necessary preparations for the use of naval radio compass stations to obtain and verify their positions off the coast. The company has directed its skippers to use the aid of the radio compass stations in the event of running aground, the order states that an investigation will be conducted to ascertain the cause of the accident, and within communicating distance of one of the forty-four radio stations maintained for positioning purposes by the Navy Department and whether or not the master of the unfortunate craft used the facilities at his command. These facts will be considered in determining his responsibility.

Many more concerns have made it a part of their regular routine that a vessel goes aground under any circumstances and has not asked for a compass bearing fifteen minutes before the accident, the Captain shall be charged with neglect of duty and punished by the authorities accordingly.

Reports from the Naval Communication Service office show that in January 11,650 compass bearings were furnished; in February, 9,792 bearings were radioed to 4,750 vessels; and in March positions were reported to 2,897 ships within an average time of 2.75 minutes, a total of 8,428 bearings being given. Of the last 7,124 bearings were furnished merchant ships and eight to aircraft, which is making use of the service as well as the ships of the sea.

NAVY TO STUDY STATIC.

Plans for the study of the well known static, so troublesome to the radio fan, in connection with its possible relation to storm centers, has been announced by the Navy Department for the coming summer months.

TWENTY-SIX NEW BROADCASTING STATIONS LICENSED.

Between May 20 and 27 the following limited commercial stations were licensed by the Radio Section of the Department of Commerce:

WDZA, Arizona Daily Star, Tucson, Ariz.

WDQA, Automotive Electric Company, Dallas, Tex.

WDAA, Florida Times Union, Jacksonville, Fla.

WDAN, Glenwood Radio Corporation, Asheville, N. C.

WDQA, Hartman-Riker Electric and Machine Company, Brownsville, Pa.

WDAR, Lat Bros., Philadelphia, Pa.

WDAP, Midwest Radio Central, Inc., Chicago, Ill.

KDZR, Frank E. Siefert, Bakerville, Cal.

WDAM, Western Electric Company, New York, N. Y.

WDAT, Delta Electric Company, Worcester, Mass.

WDAA, Georgia Railway and Power Company, Atlanta, Ga.

WDAX, Hartford Courant, Hartford, Conn.

WDAU, Slocum & Kilburn, New Bedford, Mass.

WDAS, Samuel A. Waite, Worcester, Mass.

WDAX, First National Bank, Centerville, Ia.

KDZZ, W. R. Mitchell, Los Angeles, Cal.

WDAY, Muskogee Daily Phoenix, Muskogee, Okla.

KDZZ, The Rhodes Company, Seattle, Wash.

KDZF, Automobile Club of Southern California, Los Angeles, Cal.

WBAC, Bains Electric Service Company, Terre Haute, Ind.

KDZZ, Cyrus Pelree & Co., San Francisco, Cal.

WEAA, Pallain & Lathrop, Flint, Mich.

KDZH, Fresno Evening Herald, Fresno, Cal.

WEAD, Northwest Kansas Radio Supply Company, Atwood, Kan.

WEAB, Standard Radio Equipment Company, Fort Dodge, Ia.

All Radio Compass stations, especially those along the Gulf coast, will co-operate with the Weather Bureau in taking radio compass bearings on all static disturbances three times daily, in an effort to determine whether or not there is any connection between the center of electrical disturbances and the center of storms.

If this is found to be the case, it is said that storms originating off the Southeast coast can be followed every foot of their progress up the Gulf or coast and forecasts sent in advance of the time to the sections they will touch.

The new static schedule went into effect May 30 at Hampton Roads Air Station. Reports on the quantity, intensity and bearing of atmospheric static being received by telegraph from Naval compass stations at Hog Island, Virginia Beach and Poyers Hill daily at 8 A. M., 12 M. and 4 P. M.

NEW NICARAGUAN STATIONS.

The establishment of a commercial wireless station at Managua and also stations at Bluefields, San Juan de Norte and Cabo Gracias a Dios in Nicaragua have been authorized by concessions granted to John H. Wilson, Maine, according to United States Consul Harold Playter. It is understood that these concessions given to Mr. Wilson, who represents the Tropical Radio Telegraph Company (United Fruit Company), exclusive rights at the places mentioned.

THE EVENING WORLD RADIO CLUB.

Application for Membership.

Name _____

Address _____

Street, Town, State _____

Receiving set _____

Broadcasting set _____

Type _____ Location _____

Call letters _____ Date _____

JONES RADIO SETS \$29.00

Super-sensitive Armstrong Circuit (the standard in radio)

and an auto-transformer

Jones Radio Laboratories

281 Avenue C, Brooklyn, N. Y.

Telephone 1217-B, Lefkowitz

W J Z (Newark) 360 Metres.

Features for the day:
Agricultural reports at 12 M. and 6 P. M.
Arlington official time at 12:55 to 1 P. M. and 10:55 to 11 P. M.
Baseball scores from 2 P. M. to 8 P. M.
Music every hour from 11 A. M. to 6 P. M.
Shipping news at 2:05 P. M.
Weather reports at 11 A. M., 1 P. M., 6 P. M., 10:01 P. M.
7 P. M.—"Man in the Moon" stories.
7:30 P. M.—"A Vision of War," Biology by Robert Ingersoll, read by an editor of the Truth Seeker.
7:45 P. M.—"Gold Star Mothers," by Alice Durwell Stueck.
7:55 P. M.—"Broadcasting Broadway," by Bertha Brainerd.
8 P. M.—Memorial Day Address, by Capt. Warren P. Conn, former Chaplain of the 11th Infantry, 29th Division.
8:30 P. M.—New Jersey State Assemblyman, Musical programme of patriotic selections, including "My Own United States," by G. Earle Kinkeldey, senior, tenor.
8:45 P. M.—Concert by Charles Duerf, Private, Headquarters Company, 312th Infantry, 78th Division, Programme: First Call, Black Prince March, Reveille, Best Lawrence March, Assembly, Drop of Water, Chow Call, 1st New Jersey Infantry March, Drill, Pay Day, Sick Call, Guard Mounting, Stable, To the Colors, Adjutant's Call, Retreat, Fire, Tattoo, Church Recall, Officers' Call, Call to Quarters, Fatigue, Taps, School.
9:30 P. M.—Recital by Lucile Collette, Paragon violin virtuoso. The programme will be announced by radio. Mr. Peterson will be the accompanist.

K D K A (Pittsburgh) 340 Metres.

1:30 P. M.—Results of morning games in National and American Leagues.
2 P. M.—Memorial Day Address, recital from Indiana recited from a dance hall floor practicing the modern dances, the Rev. A. B. Taylor, pastor of the People's Church of Christ, Unitarian, to-day took the public forum in opposition to a public dance pavilion.
The Common Council has before it a resolution calling for the construction of a municipal open air dance pavilion in the park and it is in opposition to this that the clergyman made his speech, claiming that modern dances demoralize the younger generation.
PRINCETON COMMENCEMENT TO BE HELD OUTDOORS.
The annual commencement June 29 of Princeton University, the 175th, will be held this year out of doors for the first time. The size of the graduating class—about 600—made it impossible for it to be held in Alexander Hall, as has been the custom for many years.

DIES SEVERAL HOURS AFTER AUTO HIT HIM

Elliott Roudy, five years old of No. 681 West 174th Street, died at St. Vincent's hospital yesterday afternoon from an automobile accident. He was struck in front of his home by Henry Goodrich of No. 218 East 94th Street, whose automobile had hit him, and after being treated for shock and bruises was taken home. He suddenly became worse early today and a physician was called, but the boy was dead when he arrived.

SURE RELIEF FOR INDIGESTION

BELLANS
6 Tablets
Hot water
Sure Relief
25c and 75c Packages Everywhere

An Extraordinary Sale!

As we are RETIRING FROM BUSINESS, we must dispose of every garment in our factory warehouse regardless of former prices. Therefore this great sale just in time for June events.

Our Entire Stock of

Tuxedos & Full Dress Suits

at 50% OFF

This is a wonderful opportunity to buy evening clothes at the lowest prices ever quoted for merchandise of this grade. Included are many suits of the well-known "Hickey-Freeman" make.

Samuel Blum

Sale at Our Wholesale Manufacturing Factory

740 BROADWAY at ASTOR PLACE

TAKE ELEVATOR TO SIXTH FLOOR

Still the original process.

Body and flavor, not alcoholic content, made Budweiser the favorite. And body and flavor are the same today.

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New York City

Why 275,000 people went to Carlsbad last year

Carlsbad Salts

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COP STOPS HORSE RUSHING IN CROWD

Policeman McGivney Jumps on Runaway's Back From Taxi.

Policeman Thomas McGivney was congratulated to-day for his daring capture last evening of a runaway horse to whose back he leaped from a commandeered taxi, after the animal had endangered the lives of hundreds of Brooklyn children and pedestrians.

A motor truck driven by Charles Danforth, No. 416 West 35th Street, Manhattan, struck a horse and wagon left unattended at Dean Street and Fourth Avenue by Thomas Harrigan, peddler, No. 371 Seventh Avenue, Brooklyn. The horse, dashing through the wreckage of the demolished wagon, dashed through Fourth Avenue to the Long Island Railroad Station, passing through crowds of people. No one was injured.

RATHER SEE DAUGHTERS DEAD THAN DANCING

New Britain Pastor So Says, Opposing Community Dance Hall.

(Special to The Evening World.) NEW BRITAIN, Conn., May 30.—Declaring before a public audience he would rather see his own daughters dead at their feet than to see them on a dance hall floor practicing the modern dances, the Rev. A. B. Taylor, pastor of the People's Church of Christ, Unitarian, to-day took the public forum in opposition to a public dance pavilion.

The Common Council has before it a resolution calling for the construction of a municipal open air dance pavilion in the park and it is in opposition to this that the clergyman made his speech, claiming that modern dances demoralize the younger generation.

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IRISH COUNTESS SEES MAYOR.

Countess Markievicz, one of the strongest advocates for an Irish Republic, said Mayor John P. Hyman an hour's visit at City Hall yesterday afternoon before leaving for Dublin to-day by the Cunard liner Derwentaria.

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